

Healthcare Associated Hepatitis Outbreak in an Outpatient Clinic West Virginia, 2014-2015

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Hepatitis B & C

- Contagious liver diseases that ranges in severity from a mild illness lasting a few weeks to a serious, lifelong illness that attacks the liver.
- Hepatitis B & C can be either “acute” or “chronic.”
 - Acute infection is a short-term illness that occurs within the first 6 months after someone is exposed to the virus. For most, acute infection leads to chronic infection that occurs when the virus remains in a person's body.
- Chronic infections can last a lifetime and lead to serious liver problems, including cirrhosis (scarring of the liver) or liver cancer.

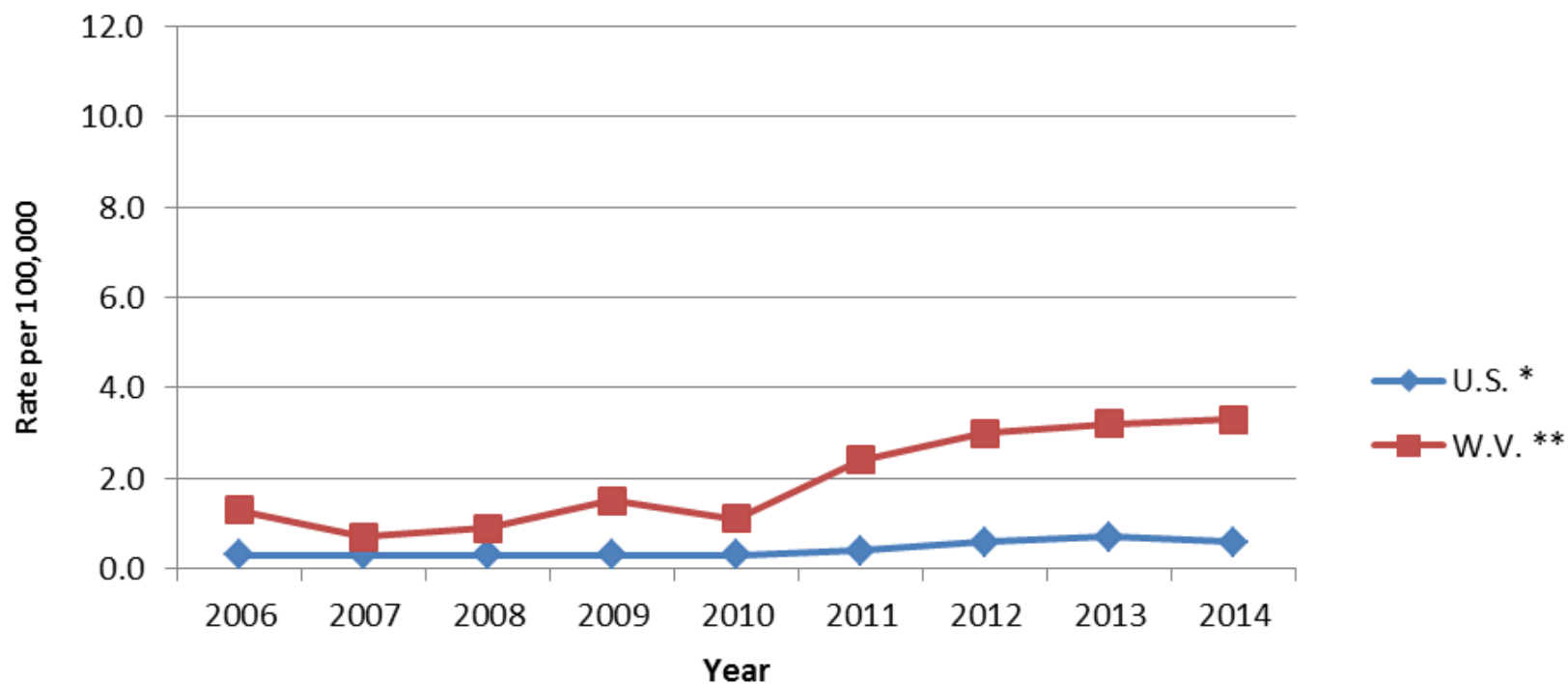
Hepatitis B & C

- HCV
- Spread primarily through contact with the blood of an infected person.
- Approximately 75%–85% of people who become infected with HCV develop chronic infection
- HBV is spread when blood, semen, or other body fluid infected with the Hepatitis B virus enters the body.
- People can become infected with the virus during activities such as:
 - •Birth (spread from an infected mother to her baby during birth)
 - •Sex with an infected partner
 - •Sharing needles, syringes, or other drug-injection equipment
 - •Sharing items such as razors or toothbrushes with an infected person
 - •Direct contact with the blood or open sores of an infected person
 - •Exposure to blood from needlesticks or other sharp instruments

HAI Hepatitis

- 2008-2014 – CDC
- 44 outbreaks of viral hepatitis related to healthcare reported
 - 42 (95%) occurred in non-hospital settings
 - Long-term care, outpatient clinics, dialysis clinics
- Breach in infection control
 - Reuse of fingerstick devices, single dose vials used more than one patient, syringe reuse, drug diversion

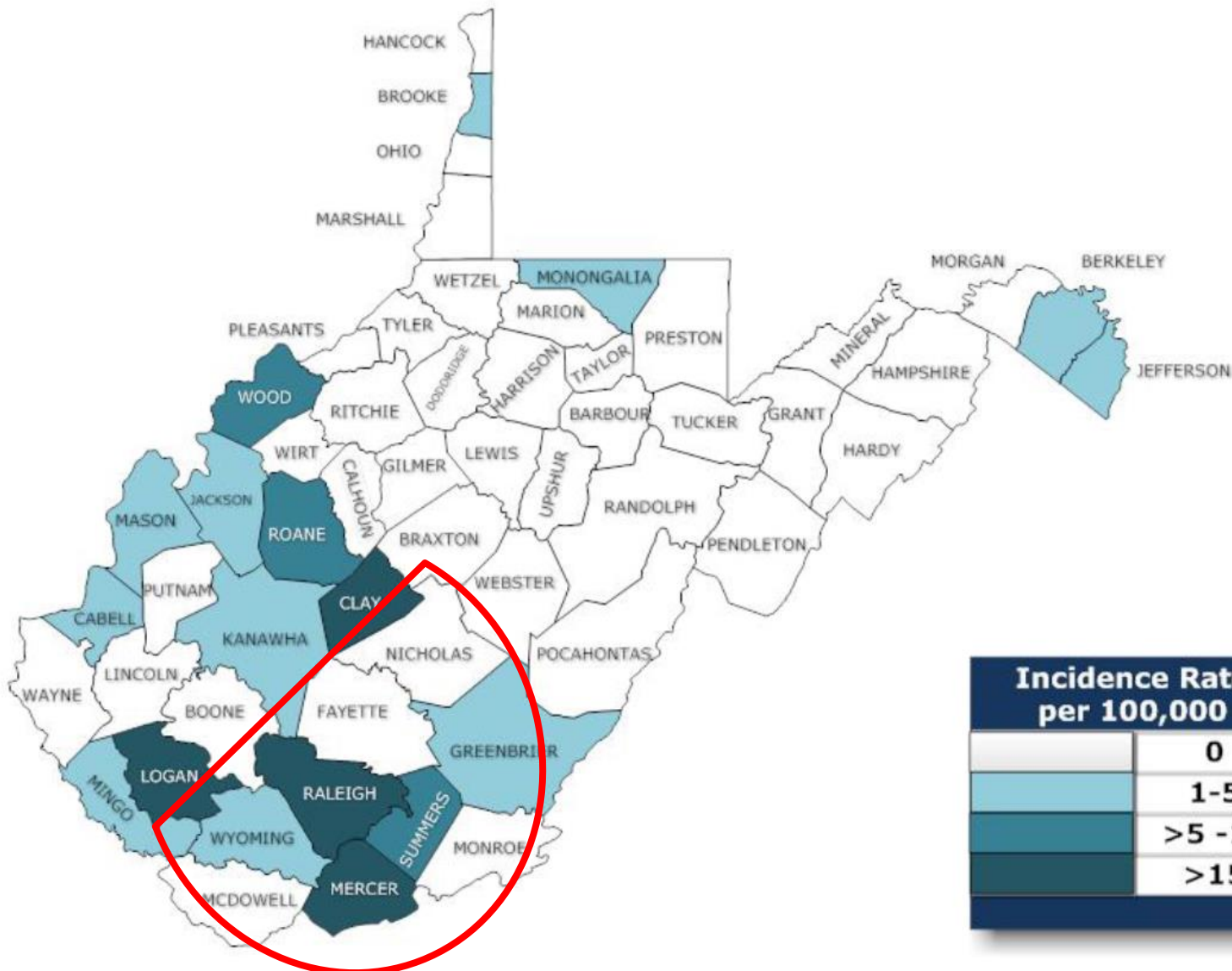
Incidence of Acute Hepatitis C by Year of Report — West Virginia and United States, 2007-2014



* U.S. rate from www.cdc.gov/hepatitis/statistics/2011Surveillance/Commentary.htm#hepC.

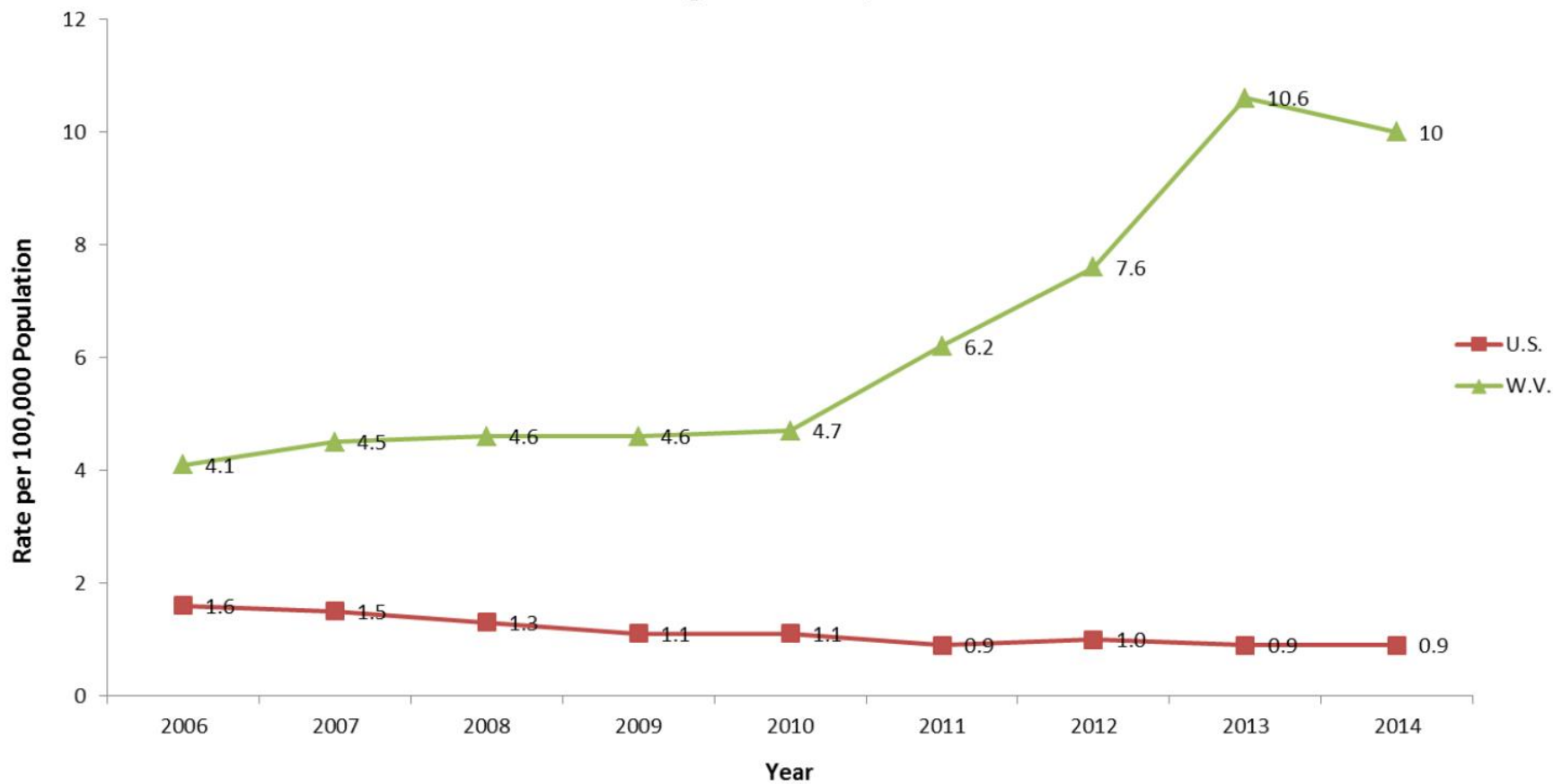
** WV rate: Number of cases reported by year of report of disease, based on 2010 population

Incidence of Acute Hepatitis C in 2014



Acute Hepatitis B - West Virginia, 2014

Incidence* of Acute Hepatitis B by Year of Report-
West Virginia and U.S., 2006-2014



*WV rate & US rate 2006 - 2013 - source: <http://www.cdc.gov/hepatitis/Statistics/2011Surveillance/Table3/1/html>

Initial Investigation

- Local healthcare provider initiated investigation of HCV in an elderly patient in October 2014
- Elevated liver enzymes
- HCV positive
- No high risk behavior
- No known previous HCV testing
- Multiple healthcare visits and procedures
 - Percutaneous injection procedures

Methods

- Epidemiological investigation
- Site Visits
- Retrospective search of WVEDSS
- Registry cross-match
- Patient notification
- Laboratory specimens collection
- CDC consultation
- Data analysis

Case Definition

- Hep. C
 - Acute – individual who underwent a procedure at Clinic A, who developed acute illness with discrete onset of signs or symptoms and either jaundice, elevated ALT levels >400 IU/L, who was confirmed by lab testing, and not known to have chronic hepatitis C

Laboratory Methods

- Specimens collected from patients on the identified days at the LHD
- Four tubes of blood drawn on each patient
- OLS testing
 - HCV, HBV, HIV
 - 1 tube frozen for shipment to CDC
- CDC molecular testing

Results

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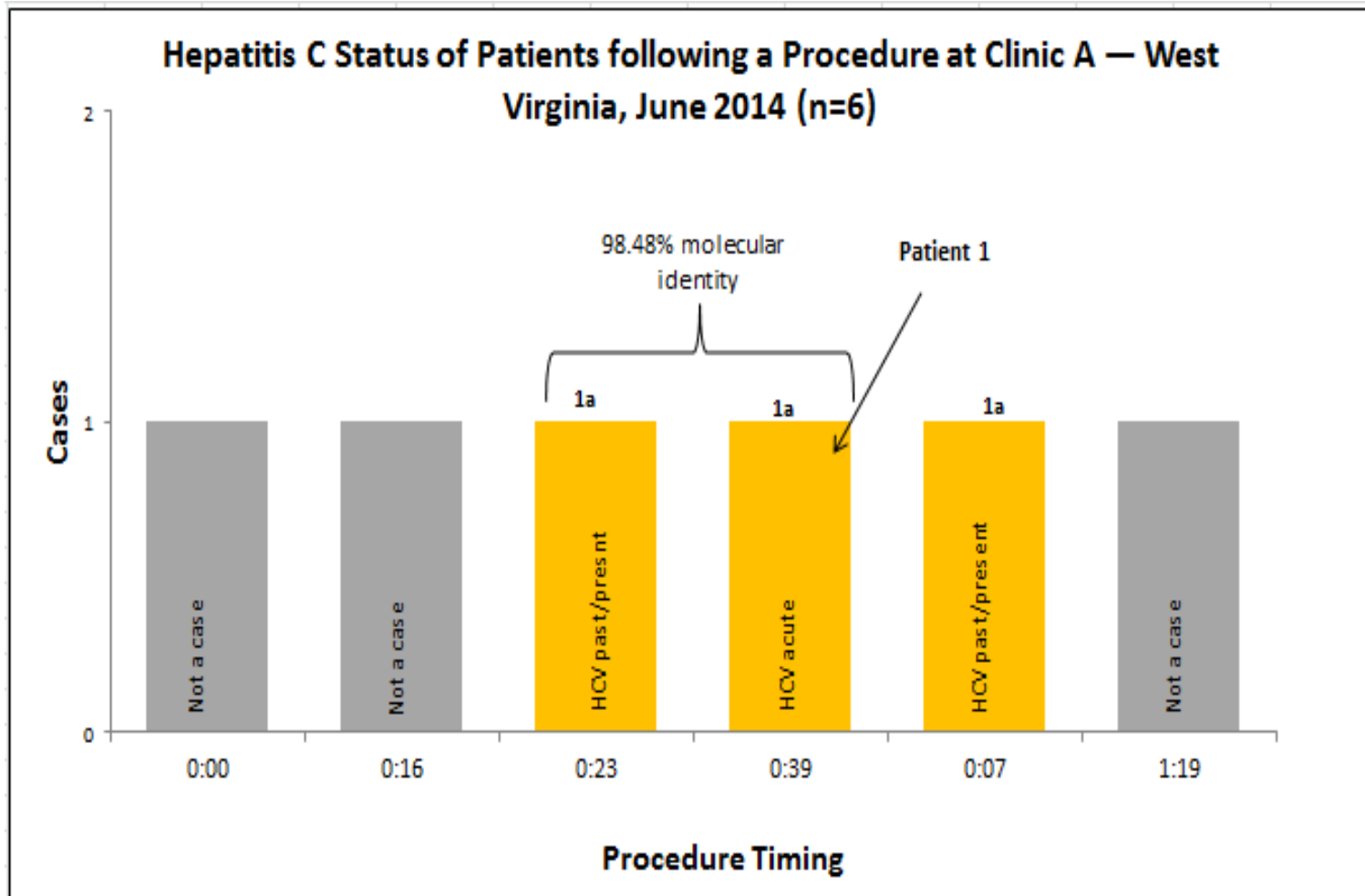
Site Visit Results

- Infection Control
 - No formal training for technician assisting in procedures
 - Technician and other staff had not received Hep. B immunizations
 - No regular infection control training for staff
 - Lack of specific written procedures or infection control program

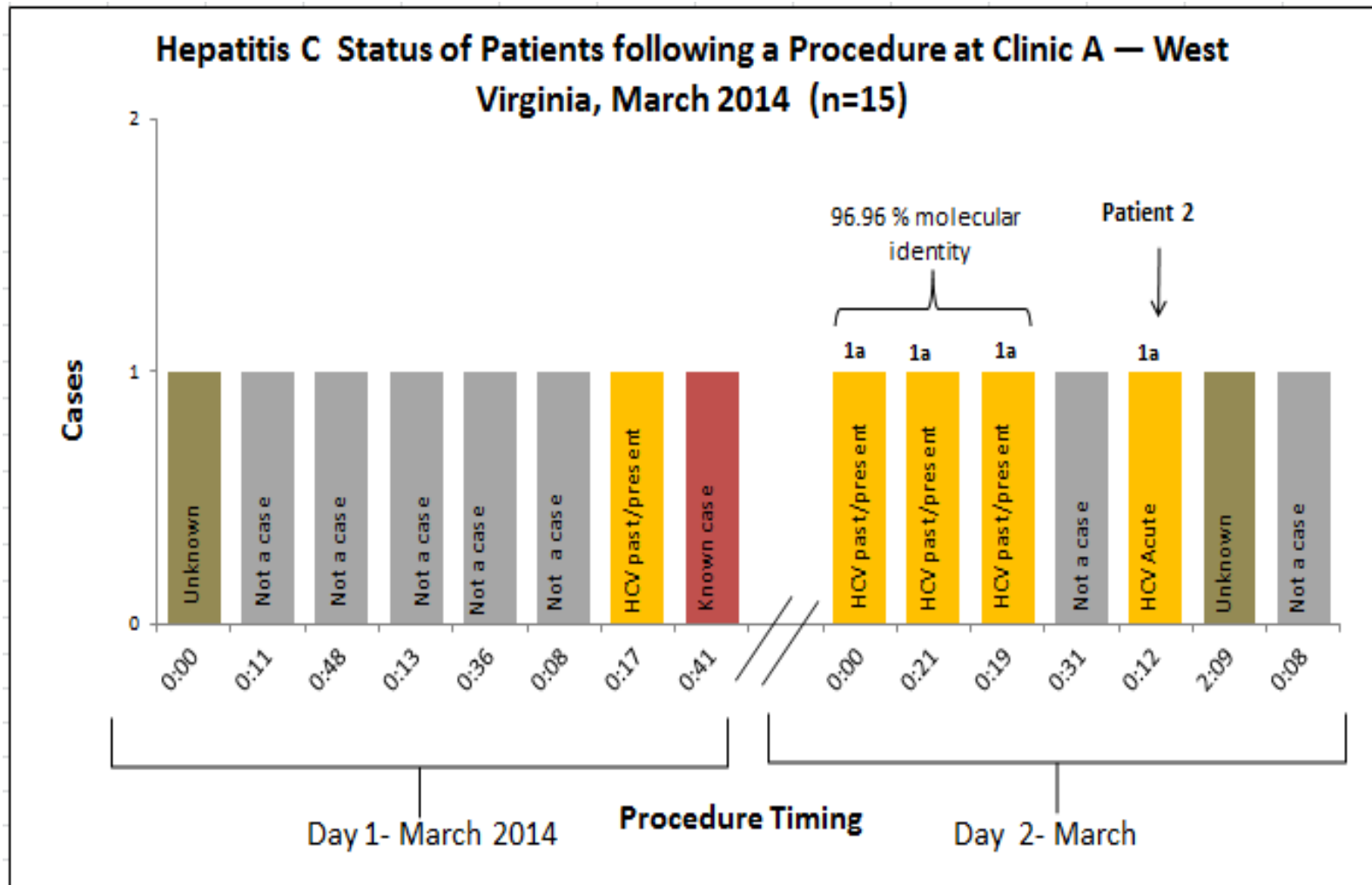
Laboratory Results

- 25/30 patients had testing for HCV, HBV, HIV
- 5 declined/not available
- HCV Results
 - 9/25 positive for HCV
 - 7 had molecular typing
 - 2 distinct clusters of HCV were identified

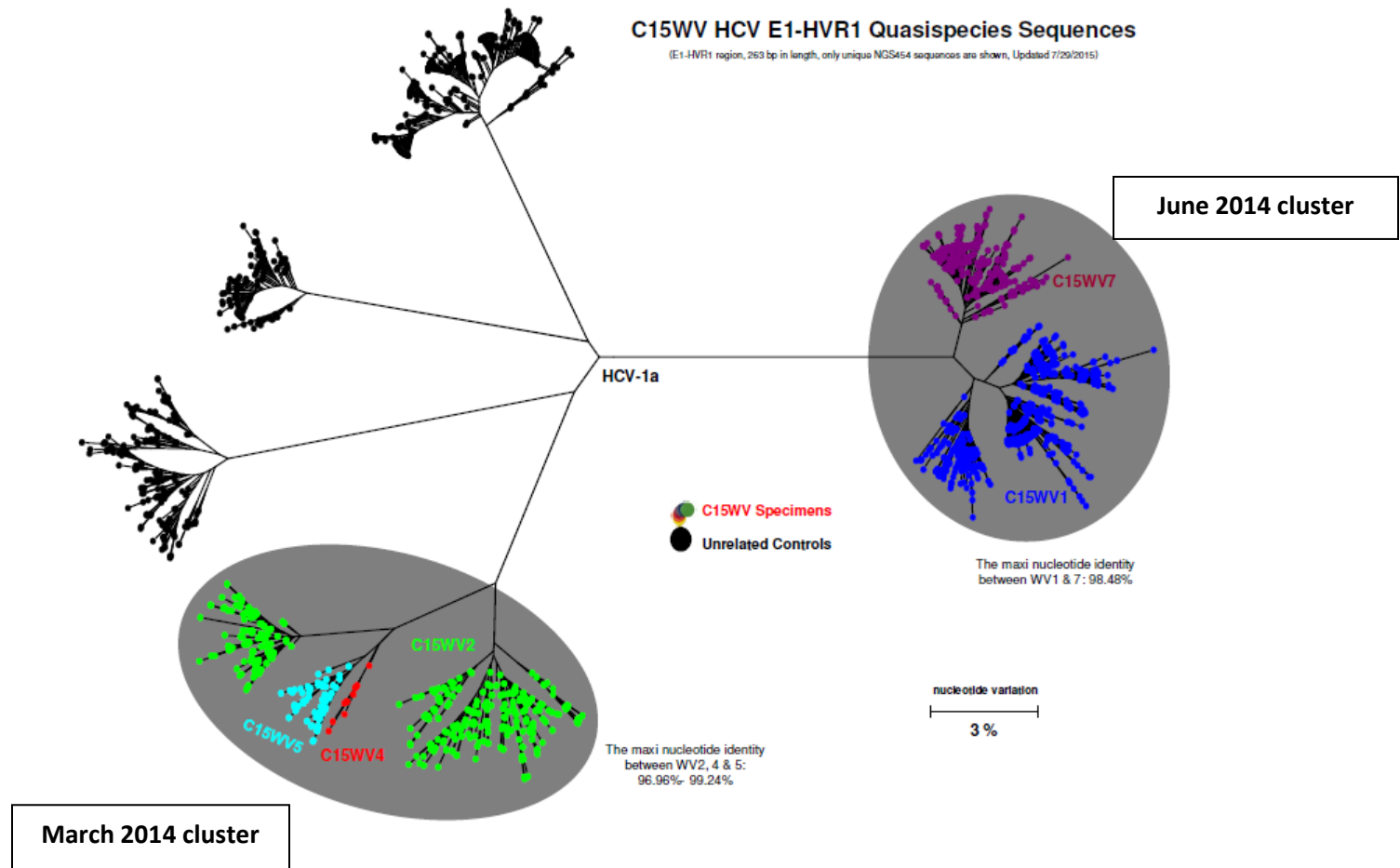
HCV Results



HCV Results



HCV Results



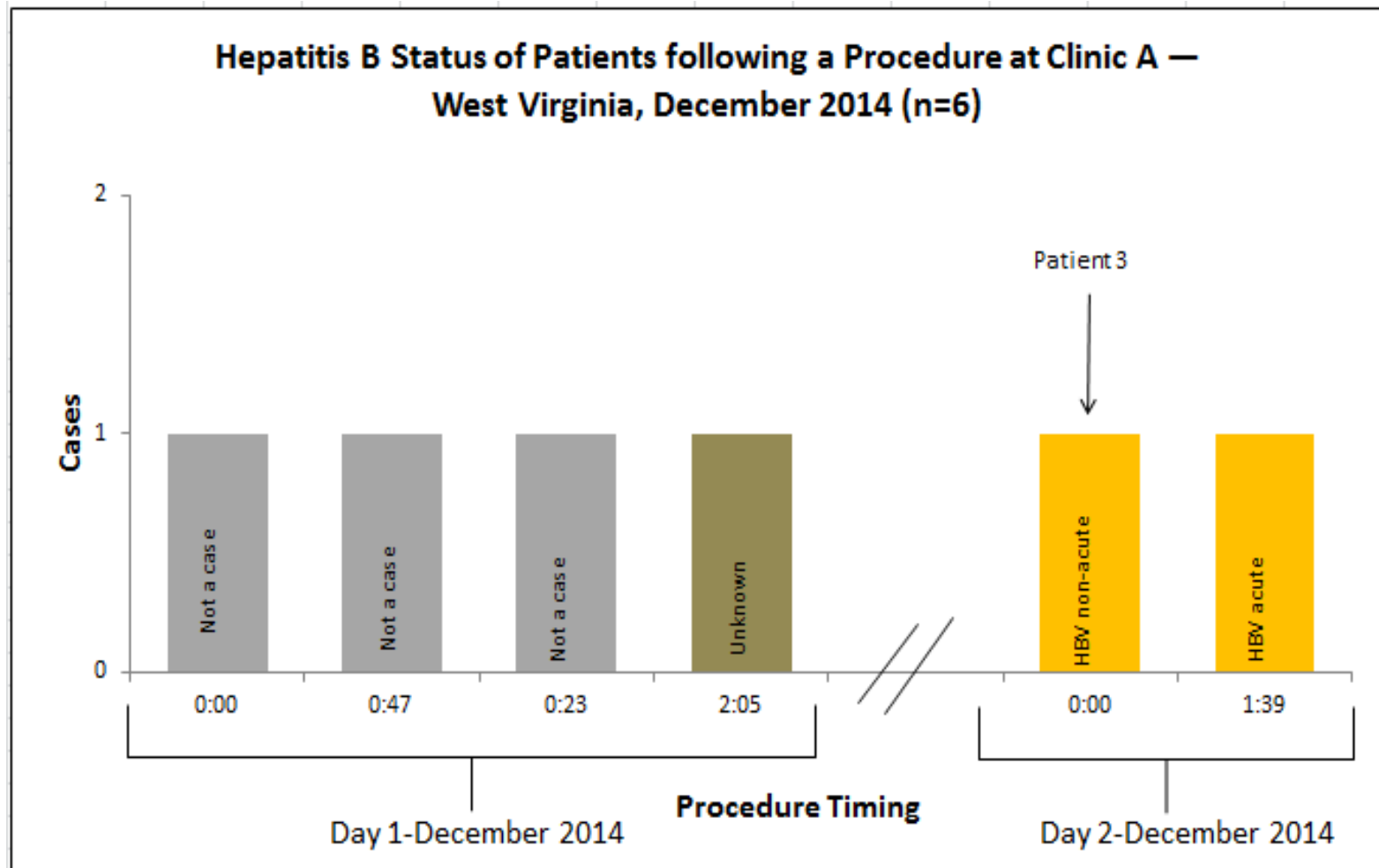
Case Definition

- Hep. B
 - Acute – individual who underwent a procedure at Clinic A who had acute illness with a discrete onset of symptoms and either jaundice or elevated ALT levels >100 IU/L who was confirmed by lab and not known to have chronic hepatitis B

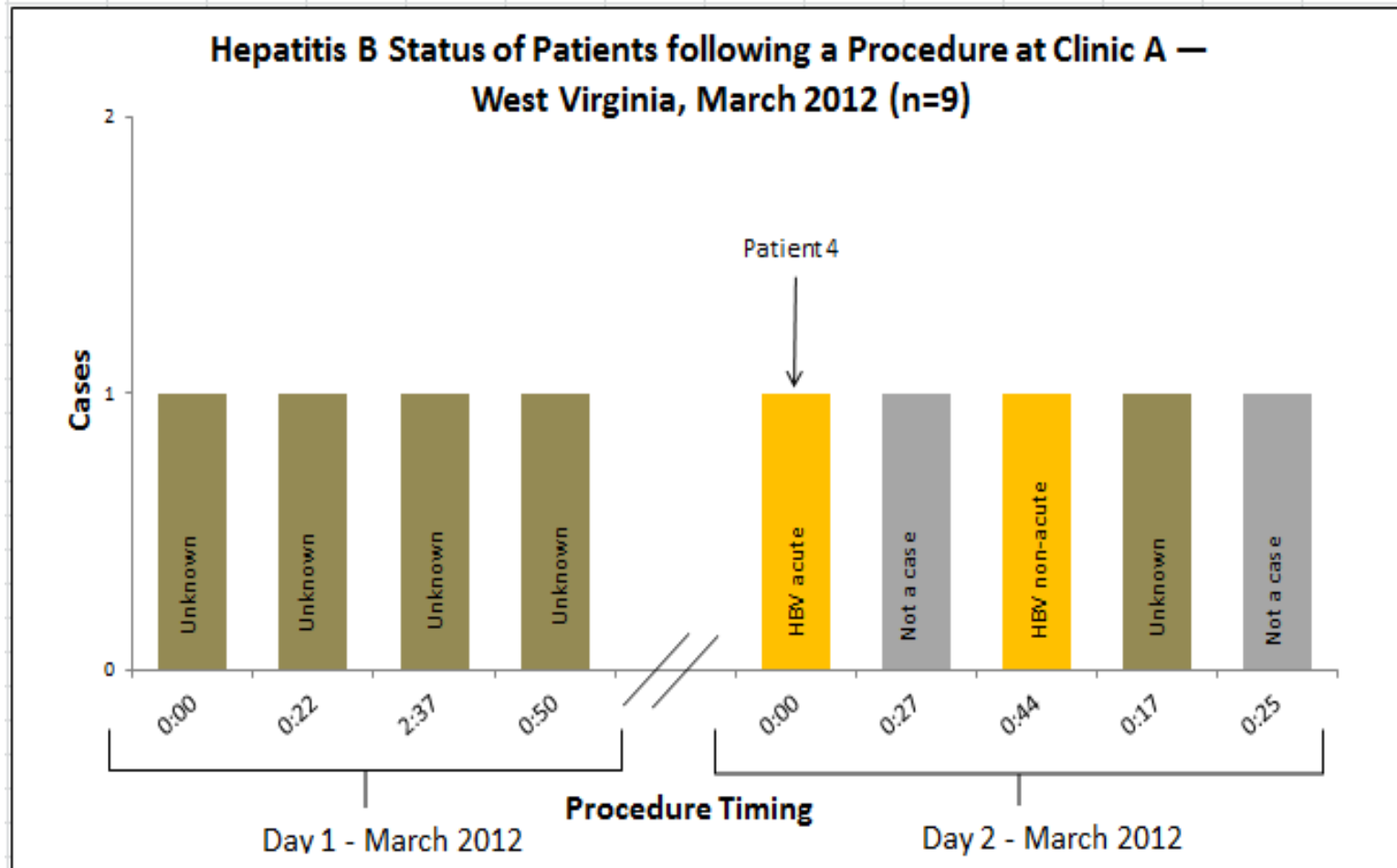
HBV Results

- 1 identified through provider reporting and LHD investigation
- 1 identified through WVEDSS search
- 2 others identified through cross-match
- 4 patients identified with HBV
- No specimens available for molecular typing
 - 6 patients deceased
- 2 clusters of HBV patients identified

HBV Results



HBV Results



Conclusions

- Two distinct clusters of HCV virus were identified from Clinic A patients
- 2 clusters of HBV patients were identified
- A clear mechanism for transmission was not identified

Recommendations

- Replace multi-dose vials with single-use
- Switch to needleless/retractable systems for injections
- Ensure staff receive blood borne pathogen and infection control trainings
- Hire an infection preventionist to help develop policies and assess current policies and procedures

Limitations

- Timing/recall bias
- Self-reporting of high risk behaviors
- Molecular testing not available for all cases
- Deceased patients

Questions

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